MINOS+ Status Report

Xinjie Qiu

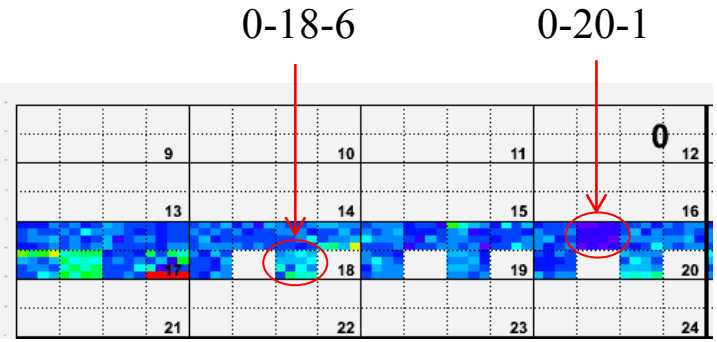
All Experimenters' Meetings

October 21, 2013

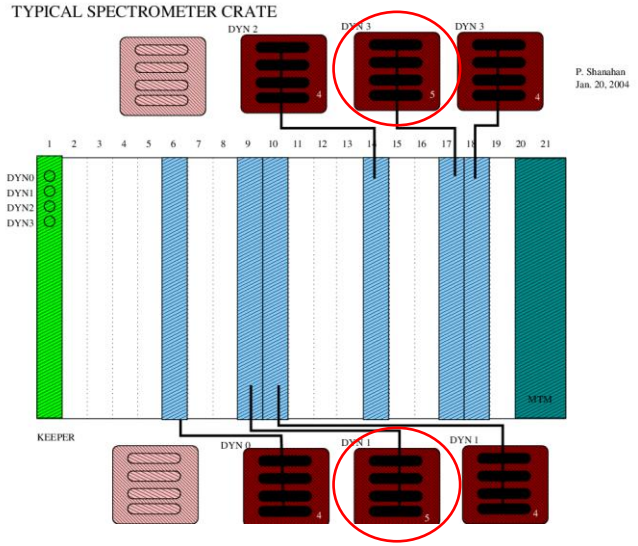
Near Detector Hardware

- Magnet tripped off last Friday
  - Booster pump #1 for the magnet coil power supply had tripped off
  - Booster pump #2 was manually started instead, cleared fault, and turned on magnet PS.
- RPS warning
  - Minder rack U9 has several errors this morning.
  - The errors were cleared, but the 208V switch trips
  - Further investigation underway, probably a bad fuse
- New Serial Server
  - We have more than 16 computers
  - Like to connect them all to a serial server
  - 32 port serial server is ready to replace 16 port one
  - Not for normal data taking, for emergency access only
  - Will install during next down time
- Low rate minders
  - Problem with empty rate minder (0-18-6) was fixed with Alner box replacement.
  - Problem with low rate minder (0-20-1) is still there.
  - Details on next slide

Low Rate Minders



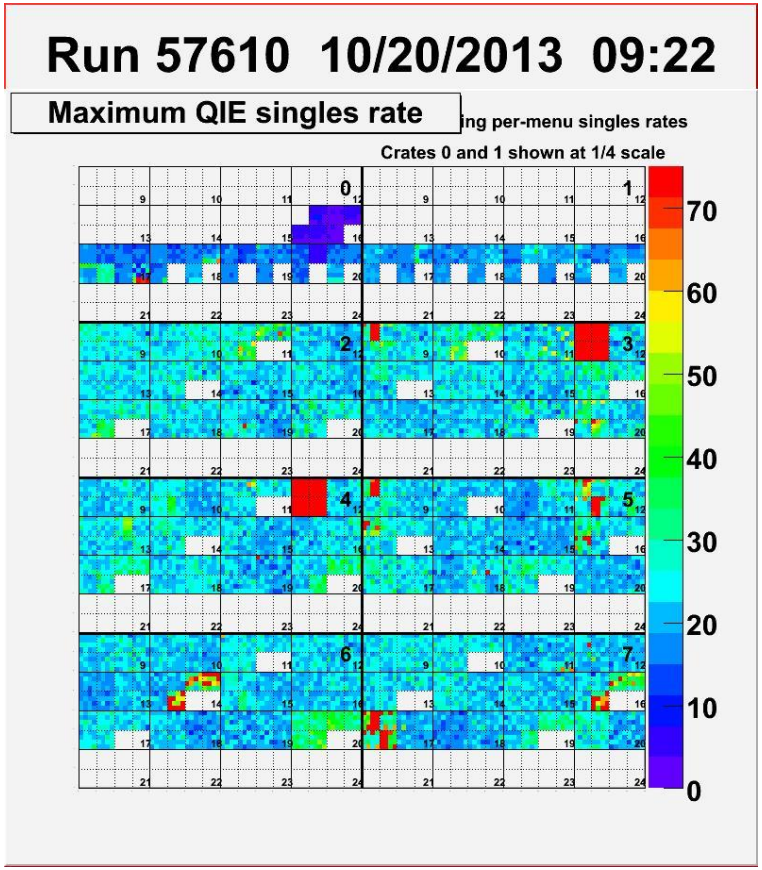
Bad (?) Alner box/PMT



Good Alner box/PMT

- Not minder or downstream
  - Swapped the minder end of the input cables from the Alner box into FE-U10 slot 17 (which is 0-20-1) and FE-U10 slot 18 (which is 0-20-0)
  - The low rate Minder was moved to 0-20-0
  - Eliminate the possibility that the problem is the minder or downstream
- Not HV
  - Measured the HV again last week
  - Confirmed it is good both from the output from the HV mainframe card, and from input to the PMT
- Not MUXing cable
  - Swapped the WHOLE input cables from the Alner box into minders FE-U10 slot 17 and FE-U10 slot 9.
  - Low rate Minder stays the same location
  - The Alner box to AUX cable is OK.
- Possible problem
  - Another faulty Alner box spares
  - Optical fiber(s) or connections from detector to Alner box,
  - or the detector itself (unlikely)
- Further troubleshooting
  - Swap two Alner boxes during possible bema downtime
  - Need at least one day
  - Give me more clue where the problem is

Near Detector DAQ



- "hot" region problem
  - Some half masters show "hot" on OM singles rate.
  - T-T0 SGATE (ADC Weighted) has high back ground: a few hundred counts.
  - ADC distributions of the "hot" regions are all sharply peaked around 50 ADC counts.
  - Tried all the possible way: restart the run, reset, branch reset, power cycling the DAQ computers/master/minder crate. None of these helps.
  - "hot" regions moves around after each run.
  - This problem develops only after the FiberNoiseSpecial run is removed from the beginning of a new RS24Hour sequence.
  - Need further understanding of the correlation between FiberNoiseSpecial special run and physics run, and the effects of removing FiberNoiseSpecial run.
  - Current solution is to enable FiberNoiseSpecial run, and live with the crash during such runs.

Near Detector DAQ

- New MinosResetCrate
  - A java application that issues the VME crate reset commands
  - Branch Reset took forever to finish last week
  - New version of MinosResetCrate.jar from from Jim Patrick was then installed on minos-daq02-nd
  - Works fine since then, except some traceback information dumps.
- AD Data Acquisition server overload again last Thurs.
  - The beam collector files were not received data after 2013-10-17 15:48:07 UTC
  - These files are used to upload beam information to the IF Beam DB, and also to the MINOS+ DB
  - Without the information on these beam files, the data taken during that period would have been unusable
  - After the node reboot, no checks were made that the file transfer process for MINOS+ was up and running
  - The program restarted after a service ticket submitted, the backlogged files have been copied
  - A script was implemented by Robert Hatcher to monitor the collector file transfer is successful every hour, and sends email if not getting data files
  - Reporting threshold is not tuned perfectly yet to cover all contingencies

Far Detector

- Soudan/FD Network interruption
  - Unscheduled network outage
    - Saturday night, Oct 19, from 7:34 PM to 7:38 PM
    - Sunday afternoon, Oct 20, from 2:57 PM to 3:01 PM
  - Problem was between FNAL and Chicago MAN (Metropolitan Area Network)
  - Brief disruption, not affect archiving FD data
  - Carrier was notified to help determine the reason for the outage.
- FD DAQ running happily and smoothly